What is claimed is:

1. A method for routing optical packets using multiple wavelength labels, said method comprising: converting optical packet address signals to a plurality of optical pulses having different time-deviated wavelengths by executing a first operation to impart a wavelength dependent delay time with respect to a plurality of optical pulses having different wavelengths at a same time axis position and, when said optical pulses are transmitted along a predetermined optical path having dispersion, compensating for said dispersion by executing a second operation on the optical pulses corresponding to a reverse process of said operation to impart a wavelength dependent delay time, the second operation resulting in generation of a plurality of optical pulses having different wavelengths at a same time axis position, and using signals of the pulses thus generated to determine a transmission route.

2. The method according to claim 1, in which a predetermined waveband used for one-bit address signals and a one-bit data signal waveband have identical bandwidths.

3. The method according to claim 1, in which a bandwidth allocated to data signals included in the optical packets is wider than a bandwidth allocated to the address signals.

4. The method according to claim 1, in which data signals and the address signals are transmitted with a predetermined time differential.

5. The method according to claim 1, in which the optical packet address signals include address information that is identified by wavelength information delimited by a predetermined waveband width and predetermined time differential information.

6. The method according to claim 1, in which the optical packet address signals include first address information that is identified by wavelength information delimited by a first waveband width, and second address information that is identified by wavelength information delimited by a second waveband width and predetermined time differential information.

7. The method according to claim 6, in which, based on the first address information, routing is performed by a first router that can switch optical paths according to wavelength differences and, based on the second address information, routing is performed by a second router that can switch optical paths according to time differences.

8. An optical packet router using multiple wavelength labels, comprising: means for separating data signals and address signals identified by wavelength information delimited by a predetermined waveband width and predetermined time differential information included in optical packets; means for demodulating address information identified by the wavelength information delimited by a predetermined waveband width and predetermined time differential information from the address signals; means for switching an optical

switch in accordance with demodulated address information; and selection means that uses the optical switch to select an optical path for the data signals.

9. The router according to claim 8, in which the demodulation means uses a multi-section fiber Bragg grating.

10. An optical packet router using multiple wavelength labels, comprising: a pulse light source that includes multi-wavelength laser light; means for dividing pulse signals from the pulse light source into a plurality of light paths; a means for obtaining a first pulse signal using a means that interacts with a multi-section fiber Bragg grating following modulation of one divided pulse signal: a means for obtaining a second pulse signal comprising means for narrowing waveband width of other divided pulse signals and means for modulating the reduced-bandwidth pulse signals; means for adjusting a time differential between first pulse signal and the second pulse signal; and means for guiding the first and second pulse signals thus adjusted to a same light path.

11. An optical packet communication network that uses multiple wavelength labels, said network comprising a plurality of routers that can switch optical paths in accordance with differences in combinations of multiple optical pulse wavelengths and time differentials included in address signals, with at least two of said routers being connected together.

12. An optical packet communication network that uses multiple wavelength labels, said network comprising a first router that can switch optical paths in accordance with differences in wavelengths of multiple optical pulses included in address signals, and a second router that can switch optical paths in accordance with differences in combinations of multiple optical pulse wavelengths and time differentials included in address signals, with the second router being connected to the first router.